

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended): A cationic dye Cationic dyes of the general formula I
 $CAT^+ Y^- \quad (I),$

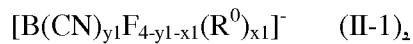
wherein

CAT⁺ is a cation selected from azine, xanthene, polymethine, styryl, azo, tetrazolium, pyrylium, benzopyrylium, thiopyrylium, benzothiopyrylium, thiazine, oxazine, triarylmethane, diarylmethane, acridine, quinoline, isoquinoline, and quaternized azafluorenone dyes,

where Y^- is an anion selected from the group CAB⁻, FAP⁻, FAB⁻, and or Im⁻;

where

CAB⁻ conforms to the general formula (II-1)



and

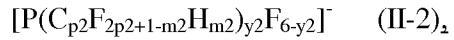
y1 is denotes 1, 2, 3 or 4,

x1 is denotes 0, 1, 2 or 3, and

R⁰ is denotes alkyl, aryl, fluorinated alkyl, fluorinated aryl, cycloalkyl or alkyl-aryl, with the condition that R⁰ may be hydrogen if y1 is >2,

where

FAP⁻ conforms to the general formula (II-2)



with

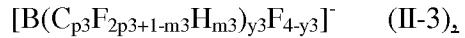
p2 [[:]] is 1 to 20,

m2 [[:]] is 0, 1, 2 or 3, and

y2 [[:]] is 1, 2, 3 or 4,

where

FAB⁻ conforms to the general formula (II-3)



MERCK-3134

with

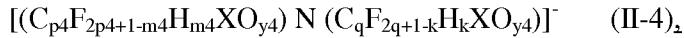
p3 [:] is 1 to 20,

m3 [:] is 0, 1, 2 or 3, and

y3 [:] is 1, 2, 3 or 4,

where

Im⁻ conforms to the general formula (II-4)



and the variables

X is denotes carbon or sulfur,

p4 is denotes 0 to 20 and $0 \leq m4 \leq 2p4+1$,

q is denotes 0 to 20 and $0 \leq k \leq 2q+1$,

y4 is denotes 1 or 2,

where

m4 is [=] 0 if p4 is [=] 0, and

k is [=] 0 if q is [=] 0, and

the carbon atoms of the alkyl chain of the formula II-4 may be bonded to one another

by single bonds, where the resultant alkylene chain may in turn be partially or
fully substituted by F:

with the proviso provisos that:

if X is sulfur, y4 is denotes 2, and if X is carbon, y4 is denotes 1 and p4 or q ≥ 1, and
and where the carbon atoms of the alkyl chain of the formula II-4 may be bonded to
one another by single bonds, where the resultant alkylene chain may in turn be partially or
fully substituted by F,

and

CAT⁺ is a cation selected from the group of the azine, xanthene, polymethine, styryl,
azo, tetrazolium, pyrylium, benzopyrylium, thiopyrylium, benzothiopyrylium, thiazine,
oxazine, triarylmethane, diarylmethane, acridine, quinoline, isoquinoline or quaternised
azafluorenone dyes,

where 3,3'-diethoxyethyl-2,2'-thiadicarbocyanine trifluoromethyltrifluoroborate is
excluded.

2. (Currently Amended): A dye Dyes according to Claim 1, wherein characterised in that CAT^+ is a cation of an azine dye.

3. (Currently Amended): A dye Dyes according to Claim 1, wherein characterised in that CAT^+ is a cation of a xanthene dye.

4. (Currently Amended): A dye Dyes according to Claim 1, wherein characterised in that CAT^+ is a cation of a polymethine dye.

5. (Currently Amended): A dye Dyes according to Claim 1, wherein characterised in that CAT^+ is a cation of a styryl dye.

6. (Currently Amended): A dye Dyes according to Claim 1, wherein characterised in that CAT^+ is a cation of an azo dye.

7. (Currently Amended): A dye Dyes according to Claim 1, wherein characterised in that CAT^+ is a cation of a tetrazolium dye.

8. (Currently Amended): A dye Dyes according to Claim 1, wherein characterised in that CAT^+ is a cation of a pyrylium dye.

9. (Currently Amended): A dye Dyes according to Claim 1, wherein characterised in that CAT^+ is a cation of a benzopyrylium dye.

10. (Currently Amended): A dye Dyes according to Claim 1, wherein characterised in that CAT^+ is a cation of a thiopyrylium dye.

11. (Currently Amended): A dye Dyes according to Claim 1, wherein characterised in that CAT^+ is a cation of a benzothiopyrylium dye.

12. (Currently Amended): A dye Dyes according to Claim 1, wherein characterised in that CAT⁺ is a cation of a thiazine dye.

13. (Currently Amended): A dye Dyes according to Claim 1, wherein characterised in that CAT⁺ is a cation of an oxazine dye.

14. (Currently Amended): A dye Dyes according to Claim 1, wherein characterised in that CAT⁺ is a cation of a triarylmethane dye.

15. (Currently Amended): A dye Dyes according to Claim 1, wherein characterised in that CAT⁺ is a cation of a diarylmethane dye.

16. (Currently Amended): A dye Dyes according to Claim 1, wherein characterised in that CAT⁺ is a cation of an acridine dye.

17. (Currently Amended): A dye Dyes according to Claim 1, wherein characterised in that CAT⁺ is a cation of a quinoline dye.

18. (Currently Amended): A dye Dyes according to Claim 1, wherein characterised in that CAT⁺ is a cation of an isoquinoline dye.

19. (Currently Amended): A dye Dyes according to Claim 1, wherein characterised in that CAT⁺ is a cation of a quaternary azafluorenone dye.

20. (Currently Amended): A dye Dyes according to Claim 4, wherein characterised in that CAT⁺ is a cation of a cyanine dye.

21. (Currently Amended): A dye Dyes according to Claim 4, wherein characterised in that CAT⁺ is a cation of a carbocyanine dye.

22. (Currently Amended): A dye Dyes according to Claim 4, wherein character-

~~ised in that~~ CAT⁺ is a cation of an azacarbocyanine dye.

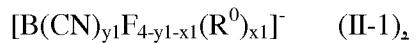
23. (Currently Amended): A dye Dyes according to Claim 4, ~~wherein character~~
~~ised in that~~ CAT⁺ is a cation of a diazacarbocyanine dye.

24. (Currently Amended): A dye Dyes according to Claim 4, ~~wherein character~~
~~ised in that~~ CAT⁺ is a cation of a triazacarbocyanine dye.

25. (Currently Amended): A dye Dyes according to Claim 4, ~~wherein character~~
~~ised in that~~ CAT⁺ is a cation of a hemicyanine dye.

26. (Currently Amended): A dye Dyes according to Claim 4, ~~wherein character~~
~~ised in that~~ at CAT⁺ is a cation of a diazahemicyanine dye.

27. (Currently Amended): A dye Dyes according to claim 1, ~~wherein character~~
~~ised in that~~ Y⁻ is a cyanoborate of the formula II-1



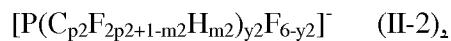
wherein and

y1 is denotes 1, 2, 3 or 4,

x1 is denotes 0, 1, 2 or 3 and

R⁰ is denotes alkyl, aryl, fluorinated alkyl, fluorinated aryl, cycloalkyl or alkyl-aryl, with the condition that R⁰ may be hydrogen if y1 is >2.

28. (Currently Amended): A dye Dyes according to claim 1, ~~wherein character~~
~~ised in that~~ Y⁻ is a fluoroalkylphosphate of the formula II-2



wherein with

p2 is 1 to 20,

m2 is 0, 1, 2 or 3 and

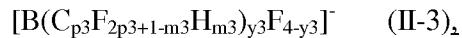
y2 is 1, 2, 3 or 4

p2: 1 to 20,

~~m2:~~ 0, 1, 2 or 3 and

~~y2:~~ 1, 2, 3 or 4.

29. (Currently Amended): A dye Dyes according to claim 1, wherein characterised in that Y⁻ is a fluoroalkylborate of the formula II-3



wherein with

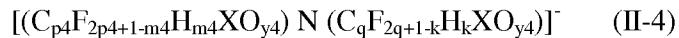
p3 is 1 to 20,

m3 is 0, 1, 2 or 3 and

y3 is 1, 2, 3 or 4;

— where 3,3'-diethoxyethyl 2,2'-thiadicarbocyanine trifluoromethyltrifluoroborate is excluded.

30. (Currently Amended): A dye Dyes according to claim 1, wherein characterised in that Y⁻ is an imide of the formula II-4



wherein and the variables

X is denotes carbon or sulfur,

p4 is denotes 0 to 20 and 0 ≤ m4 ≤ 2p4+1,

q is denotes 0 to 20 and 0 ≤ k ≤ 2q+1,

y4 is denotes 1 or 2,

m4 is 0 if p4 is 0, and

k is 0 if q is 0,

where m4 = 0 if p4 = 0 and k = 0 if q = 0,

with the proviso that

if X is sulfur, y4 is denotes 2, and if X is carbon, y4 is denotes 1 and p4 or q ≥ 1;

and where the carbon atoms of the alkyl chain of the formula II-4 may be bonded to one another by single bonds, where the resultant alkylene chain may in turn be partially or fully substituted by F.

31. (Currently Amended): A process Process for the preparation of a cationic dye

MERCK-3134

~~dyes according to claim 1, said process comprising:~~ characterised in that

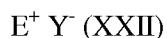
~~reacting a compound of the general formula XXI~~



~~where CAT⁺ is a cation selected from the group of the azine, xanthene, polymethine, styryl, azo, tetrazolium, pyrylium, benzopyrylium, thiopyrylium, benzothiopyrylium, thiazine, oxazine, triarylmethane, diarylmethane, acridine, quinoline, isoquinoline or quaternised azafluorenone dyes~~

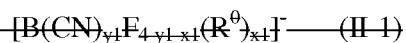
~~wherein and A⁻ is denotes Cl⁻, Br⁻, I⁻, BF₄⁻, PF₆⁻, ClO₄⁻, sulfate, tosylate, hydrosulfate, triflate, trifluoroacetate, acetate or oxalate,~~

~~is reacted with a compound of the general formula XXII~~



~~wherein where Y⁻ is an anion selected from the group CAB⁻, FAP⁻, FAB⁻ or Im⁻,~~

~~where CAB⁻ conforms to the general formula (II-1)~~



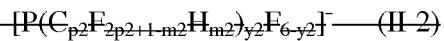
~~and~~

~~y1 denotes 1, 2, 3 or 4,~~

~~x1 denotes 0, 1, 2 or 3 and~~

~~R^θ denotes alkyl, aryl, fluorinated alkyl, fluorinated aryl, cycloalkyl or alkylaryl, with the condition that R^θ may be hydrogen if y1 is >2,~~

~~where FAP⁻ conforms to the general formula (II-2)~~



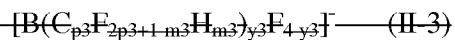
~~with~~

~~p2: 1 to 20,~~

~~m2: 0, 1, 2 or 3 and~~

~~y2: 1, 2, 3 or 4,~~

~~where FAB⁻ conforms to the general formula (II-3)~~



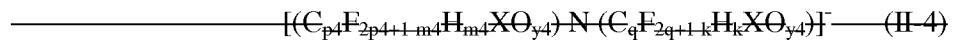
~~with~~

~~p3: 1 to 20,~~

m₃ —— 0, 1, 2 or 3 and

y₃ —— 1, 2, 3 or 4,

where Im⁻ conforms to the general formula (II-4)



and the variables

X —— denotes carbon or sulfur,

p₄ —— denotes 0 to 20 and 0 ≤ m₄ ≤ 2p₄+1,

q —— denotes 0 to 20 and 0 ≤ k ≤ 2q+1,

y₄ —— denotes 1 or 2,

where m₄ = 0 if p₄ = 0 and k = 0 if q = 0,

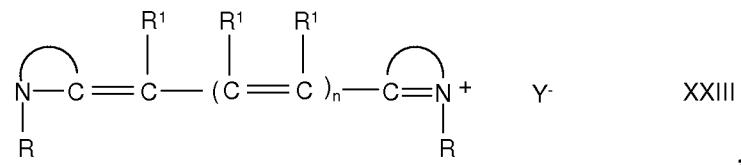
with the proviso

if X is sulfur, y₄ denotes 2 and if X is carbon, y₄ denotes 1 and p₄ or q ≥ 1,

and where the carbon atoms of the alkyl chain of the formula II-4 may be bonded to one another by single bonds, where the resultant alkylene chain may in turn be partially or fully substituted by F, and

E⁺ is a cation selected from cations of the alkali metals, alkaline earth metals or of a metal from group 11 and 12, ammonium, alkylammonium containing C₁-C₄-alkyl, phosphonium, alkylphosphonium containing C₁-C₄-alkyl, and/or guanidinium.

32. (Currently Amended): A process for the preparation of carbocyanine dye dyes according to Claim 21, where the carbocyanine dye conforms to the formula XXIII



wherein in which

n —— is denotes 0, 1, 2, 3, 4 or 5,

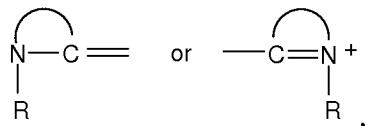
R —— in each case, independently of one another, is denotes alkyl, alkenyl, cycloalkyl, aryl or heteroaryl, and

R¹ —— in each case, independently of one another, is denotes H, Cl, Br, I, alkyl, partially or fully chlorinated alkyl, alkenyl, cycloalkyl, aryl, heteroaryl, Oalkyl, Oaryl, Salkyl, Saryl, NHalkyl, N(alkyl)₂, C(O)H, C(O)alkyl, C(O)aryl, CN, N=N-aryl, P(aryl)₂, NHC(O)alkyl or

MERCK-3134

NHC(O)aryl and

the ring system, represented by



is denotes a nitrogen-containing unsaturated mono-, bi- or tricyclic heterocycle having 5 to 13 ring members, which optionally contains may furthermore contain 1, 2 or 3 N and/or 1 or 2 S or O atoms and in which the heterocyclic radical is optionally may be mono- or polysubstituted by Z,

Z is denotes hydrogen, alkyl, NO₂, F, Cl, Br, I, OH, COOH, Oalkyl, SCN, SCF₃, COOalkyl, CH₂-COOalkyl, NH₂, NHalkyl or N(alkyl)₂

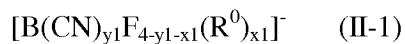
and

where

Y⁻ is an anion selected from the group CAB⁻, FAP⁻, FAB and/or Im⁻,

where

CAB⁻ conforms to the general formula (II-1)



and

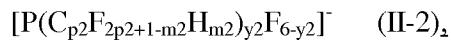
y₁ is denotes 1, 2, 3 or 4,

x₁ is denotes 0, 1, 2 or 3, and

R⁰ is denotes alkyl, aryl, fluorinated alkyl, fluorinated aryl, cycloalkyl or alkyl-aryl, with the condition that R⁰ may be hydrogen if y₁ is >2,

where

FAP⁻ conforms to the general formula (II-2)



with

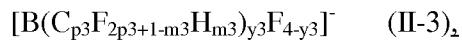
p2 [:] is 1 to 20,

m2 [:] is 0, 1, 2 or 3, and

y₂ [:] is 1, 2, 3 or 4,

where

FAB⁻ conforms to the general formula (II-3)



with

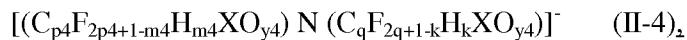
p3 [:] is 1 to 20,

m3 [:] is 0, 1, 2 or 3, and

y3 [:] is 1, 2, 3 or 4,

where

I_m^- conforms to the general formula (II-4)



and the variables

X is denotes carbon or sulfur,

p4 is denotes 0 to 20 and $0 \leq m4 \leq 2p4+1$,

q is denotes 0 to 20 and $0 \leq k \leq 2q+1$,

y4 is denotes 1 or 2,

where

m4 is [=] 0 if p4 is [=] 0, and

k is [=] 0 if q is [=] 0, and

the carbon atoms of the alkyl chain of the formula II-4 may be bonded to one another

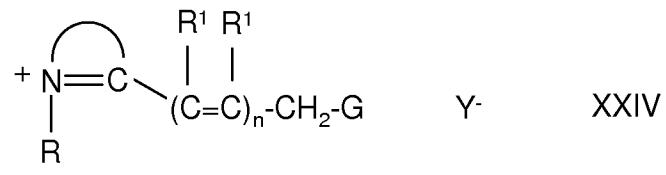
by single bonds, where the resultant alkylene chain may in turn be partially or
fully substituted by F:

with the proviso that

if X is sulfur, y4 is 2, and if X is carbon, y4 is denotes 1 and p4 or q ≥ 1 ,

and where the carbon atoms of the alkyl chain of the formula II-4 may be bonded to
one another by single bonds, where the resultant alkylene chain may in turn be partially or
fully substituted by F,

said process comprising utilizing characterised in that use is made of a compound of the
formula XXIV

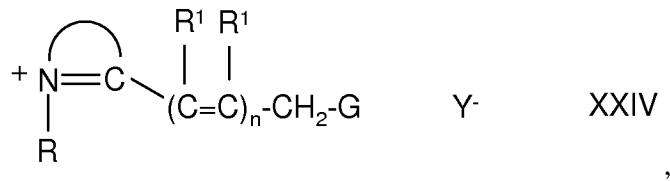


where the ring system, R, R¹ and Y⁻ have one of the meanings indicated in the case of formula XXIII, and

MERCK-3134

n is denotes 0, 1, 2, 3 or 4 and
 G is denotes hydrogen, alkyl, alkenyl, aryl, heteroaryl, N=C(R)₂, CONHaryl,
 C(O)aryl or CONHalkyl.

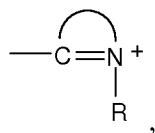
33. (Currently Amended): A compound according to Compounds of the formula
 XXIV



where

n is denotes 0, 1, 2, 3 or 4,
 G is denotes hydrogen, alkyl, alkenyl, aryl, heteroaryl, N=C(R)₂, CONHaryl,
 C(O)aryl or CONHalkyl,
 R is denotes alkyl, alkenyl, cycloalkyl, aryl or heteroaryl,
 R¹ is in each case, independently of one another, denotes H, Cl, Br, I, alkyl, partially
 or fully chlorinated alkyl, alkenyl, cycloalkyl, aryl, heteroaryl, Oalkyl, Oaryl, Salkyl, Saryl,
 NHalkyl, N(alkyl)₂, C(O)H, C(O)alkyl, C(O)aryl, CN, N=N-aryl, P(aryl)₂, NHC(O)alkyl or
 NHC(O)aryl, and

the ring system, represented by



is denotes a nitrogen-containing unsaturated mono-, bi- or tricyclic heterocycle having
 5 to 13 ring members, optionally containing which may furthermore contain 1, 2 or 3 N
 and/or 1 or 2 S or O atoms and in which the heterocyclic radical is optionally may be mono-
 or polysubstituted by Z,

Z is denotes hydrogen, alkyl, NO₂, F, Cl, Br, I, OH, COOH, Oalkyl, SCN, SCF₃,
 COOalkyl, CH₂-COOalkyl, NH₂, NHalkyl or N(alkyl)₂,

and

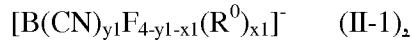
MERCK-3134

where

Y⁻ is an anion selected from the group CAB⁻, FAP⁻, FAB⁻ and or Im⁻,

where

CAB⁻ conforms to the general formula (II-1)



and

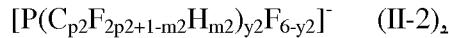
y1 is denotes 1, 2, 3 or 4,

x1 is denotes 0, 1, 2 or 3, and

R⁰ is denotes alkyl, aryl, fluorinated alkyl, fluorinated aryl, cycloalkyl or alkyl-aryl, with the condition that R⁰ may be hydrogen if y1 is >2,

where

FAP⁻ conforms to the general formula (II-2)



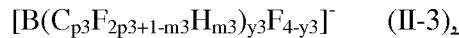
with

p2 [:] is 1 to 20,

m2 [:] is 0, 1, 2 or 3, and

y2 [:] is 1, 2, 3 or 4,

where FAB⁻ conforms to the general formula (II-3)



with

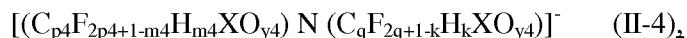
p3 is 1 to 20,

m3 is 0, 1, 2 or 3, and

y3 is 1, 2, 3 or 4,

where

Im⁻ conforms to the general formula (II-4)



and the variables

X is denotes carbon or sulfur,

p4 is denotes 0 to 20 and 0 ≤ m4 ≤ 2p4+1,

q is denotes 0 to 20 and 0 ≤ k ≤ 2q+1,

y4 is denotes 1 or 2,

where

m4 is [[=]] 0 if p4 is [[=]] 0, and

k is [[=]] 0 if q is [[=]] 0,

where the carbon atoms of the alkyl chain of the formula II-4 may be bonded to one another by single bonds, and the resultant alkylene chain may in turn be partially or fully substituted by F;

with the proviso provisos that:

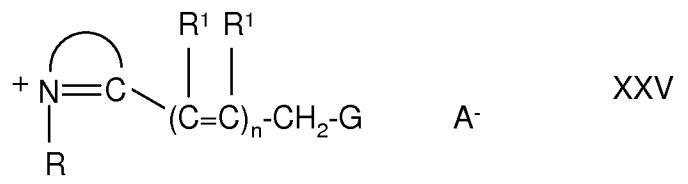
if X is sulfur, y4 is denotes 2, and

if X is carbon, y4 is denotes 1 and p4 or q ≥ 1 ,

~~and where the carbon atoms of the alkyl chain of the formula II-4 may be bonded to one another by single bonds, where the resultant alkylene chain may in turn be partially or fully substituted by F.~~

34. (Currently Amended): A process Process for the preparation of a compound the compounds of the formula XXIV according to Claim 33, said process comprising reacting characterised in that

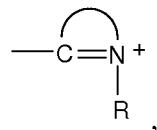
a compound of the formula XXV



in which

A^- is denotes Cl^- , Br^- , I^- , BF_4^- , PF_6^- , ClO_4^- , sulfate, tosylate, hydrosulfate, triflate, trifluoroacetate, acetate or oxalate,

the ring system, represented by



is denotes a nitrogen-containing unsaturated mono-, bi- or tricyclic heterocycle having 5 to 13 ring members, which optionally further contains ~~may furthermore contain~~ 1, 2 or 3 N and/or 1 or 2 S or O atoms, and in which the heterocyclic radical is optionally ~~may be~~ mono- or polysubstituted by Z,

Z is denotes hydrogen, alkyl, NO_2 , F, Cl, Br, I, OH, COOH, Oalkyl, SCN, SCF_3 , COOalkyl , $\text{CH}_2\text{-COOalkyl}$, NH_2 , NHalkyl, or N(alkyl)_2 ,

n is denotes 0, 1, 2, 3 or 4,

R is denotes alkyl, alkenyl, cycloalkyl, aryl or heteroaryl,

R^1 is in each case, independently of one another, denotes H, Cl, Br, I, alkyl, partially or fully chlorinated alkyl, alkenyl, cycloalkyl, aryl, heteroaryl, Oalkyl, Oaryl, Salkyl, Saryl, NHalkyl, N(alkyl)₂, C(O)H, C(O)alkyl, C(O)aryl, CN, N=N-aryl, P(aryl)₂, NHC(O)alkyl, or NHC(O)aryl, and

G is denotes hydrogen, alkyl, alkenyl, aryl, heteroaryl, N=C(R)₂, CONHaryl, C(O)aryl, or CONHalkyl,

is reacted with a compound of the formula XXVI

E⁺Y⁻ XXVI,

in which

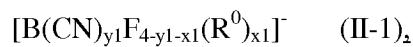
E^+ is a cation of the alkali metals, alkaline earth metals or of a metal from group 11 and 12, ammonium, alkylammonium containing C₁-C₄-alkyl, phosphonium, alkylphosphonium containing C₁-C₄-alkyl, or guanidinium, and

~~where~~

Y^- is an anion selected from the group CAB⁻, FAP⁻, FAB⁻ and/or Im⁻,

~~where~~

CAB^- conforms to the general formula (II-1)



and

y1 is denotes 1, 2, 3 or 4,

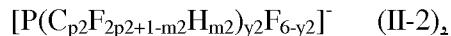
x1 is denotes 0, 1, 2 or 3, and

MERCK-3134

R^0 is denotes alkyl, aryl, fluorinated alkyl, fluorinated aryl, cycloalkyl or alkyl-aryl, with the condition that R^0 may be hydrogen if y_1 is >2 ,

where

FAP⁻ conforms to the general formula (II-2)



with

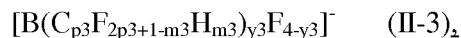
p_2 is 1 to 20,

m_2 is 0, 1, 2 or 3, and

y_2 is 1, 2, 3 or 4,

where

FAB⁻ conforms to the general formula (II-3)



with

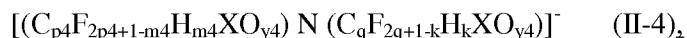
p_3 is 1 to 20,

m_3 is 0, 1, 2 or 3, and

y_3 is 1, 2, 3 or 4,

where

Im⁻ conforms to the general formula (II-4)



and the variables

X is denotes carbon or sulfur,

p_4 is denotes 0 to 20 and $0 \leq m_4 \leq 2p_4+1$,

q is denotes 0 to 20 and $0 \leq k \leq 2q+1$,

y_4 is denotes 1 or 2,

where

m_4 is 0 if p_4 is 0, and

k is 0 if q is 0,

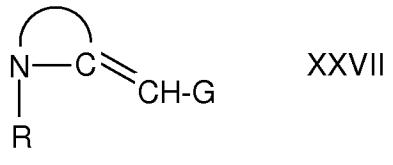
where the carbon atoms of the alkyl chain of the formula II-4 may be bonded to one another by single bonds, and the resultant alkylene chain may in turn be partially or fully substituted by F;

with the proviso provisos that

if X is sulfur, y4 is denotes 2, and if X is carbon, y4 is denotes 1 and p4 or q ≥ 1, and where the carbon atoms of the alkyl chain of the formula II-4 may be bonded to one another by single bonds, where the resultant alkylene chain may in turn be partially or fully substituted by F.

35. (Currently Amended): A process Process for the preparation of a compound compounds of the formula XXIV according to Claim 33, with the restriction that n in formula XXIV is denotes 0, characterised in that said process comprising:

reacting a compound of the formula XXVII



,

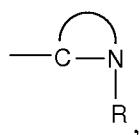
in which

G is denotes hydrogen, alkyl, alkenyl, aryl, heteroaryl, N=C(R)₂, CONHaryl, C(O)aryl, or CONHalkyl, and

R is denotes alkyl, alkenyl, cycloalkyl, aryl or heteroaryl,

and

the ring system, represented by



is denotes a nitrogen-containing unsaturated mono-, bi- or tricyclic heterocycle having 5 to 13 ring members, which optionally further contains may furthermore contain 1, 2 or 3 N and/or 1 or 2 S or O atoms, and in which the heterocyclic radical is optionally may be mono- or polysubstituted by Z,

Z is denotes hydrogen, alkyl, NO₂, F, Cl, Br, I, OH, COOH, Oalkyl, SCN, SCF₃, COOalkyl, CH₂-COOalkyl, NH₂, NHalkyl, or N(alkyl)₂,

~~is reacted~~

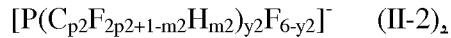
with a compound HY,

where

Y⁻ is an anion selected from the group FAP⁻, FAB⁻ and or Im⁻,

where

FAP⁻ conforms to the general formula (II-2)



with

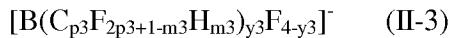
p2 [:] is 1 to 20,

m2 [:] is 0, 1, 2 or 3, and

y2 [:] is 1, 2, 3 or 4,

where

FAB⁻ conforms to the general formula (II-3)



with

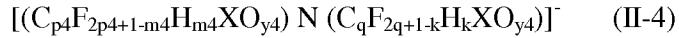
p3 is 1 to 20,

m3 is 0, 1, 2 or 3, and

y3 is 1, 2, 3 or 4,

where

Im⁻ conforms to the general formula (II-4)



and the variables

X is denotes carbon or sulfur,

p4 is denotes 0 to 20 and $0 \leq m4 \leq 2p4+1$,

q is denotes 0 to 20 and $0 \leq k \leq 2q+1$,

y4 is denotes 1 or 2,

where

m4 is [=] 0 if p4 is [=] 0, and

k is [=] 0 if q is [=] 0,

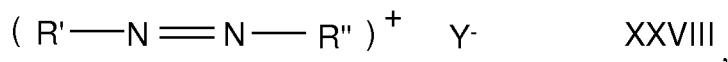
where the carbon atoms of the alkyl chain of the formula II-4 may be bonded to one

another by single bonds, and the resultant alkylene chain may in turn be partially or fully substituted by F;

with the previse provisos that

if X is sulfur, y4 is denotes 2, and if X is carbon, y4 is denotes 1 and p4 or q ≥ 1,
~~and where the carbon atoms of the alkyl chain of the formula II-4 may be bonded to one another by single bonds, where the resultant alkylene chain may in turn be partially or fully substituted by F.~~

36. (Currently Amended): A process Process for the preparation of an azo dyes according to Claim 6, where the wherein said azo dye conforms to the formula XXVIII



where

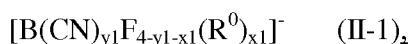
R' and R'' are each denote aryl or heteroaryl and one of the two aromatic nuclei is positively charged, and

where

Y⁻ is an anion selected from the group CAB⁻, FAP⁻, FAB⁻ and or Im⁻,

where

CAB⁻ conforms to the general formula (II-1)



and

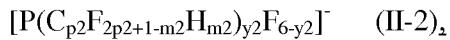
y1 is denotes 1, 2, 3 or 4,

x1 is denotes 0, 1, 2 or 3 and

R⁰ is denotes alkyl, aryl, fluorinated alkyl, fluorinated aryl, cycloalkyl or alkyl-aryl, with the condition that R⁰ may be hydrogen if y1 is >2,

where

FAP⁻ conforms to the general formula (II-2)



with

p2 [[:]] is 1 to 20,

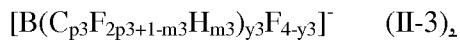
m2 [[:]] is 0, 1, 2 or 3, and

MERCK-3134

y₂ [:] is 1, 2, 3 or 4,

where

FAB⁻ conforms to the general formula (II-3)



with

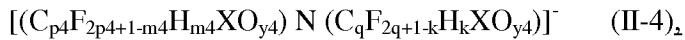
p₃ is 1 to 20,

m₃ is 0, 1, 2 or 3, and

y₃ is 1, 2, 3 or 4,

where

Im⁻ conforms to the general formula (II-4)



and the variables

X is denotes carbon or sulfur,

p₄ is denotes 0 to 20 and 0 ≤ m₄ ≤ 2p₄+1,

q is denotes 0 to 20 and 0 ≤ k ≤ 2q+1,

y₄ is denotes 1 or 2,

where

m₄ is [=] 0 if p₄ is [=] 0, and

k is [=] 0 if q is [=] 0,

where the carbon atoms of the alkyl chain of the formula II-4 may be bonded to one another by single bonds, and the resultant alkylene chain may in turn be partially or fully substituted by F,

said process comprising reacting characterised in that a compound of the formula XXIX



where R' and Y⁻ has one of the meaning indicated in the case of formula XXVIII,

is reacted

with an the aromatic cyclic or heterocyclic compound R".

37. (Currently Amended): A compound according to Compounds of the formula
XXIX

$R'-N_2^+$ Y^- **XXIX**,

in which

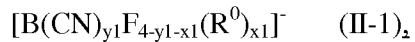
R' is denotes aryl or heteroaryl, and

where

Y^- is an anion selected from the group CAB⁻, FAP⁻, FAB⁻ and or Im⁻,

where

CAB⁻ conforms to the general formula (II-1)



and

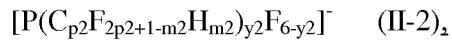
$y1$ is denotes 1, 2, 3 or 4,

$x1$ is denotes 0, 1, 2 or 3, and

R^0 is denotes alkyl, aryl, fluorinated alkyl, fluorinated aryl, cycloalkyl or alkyl-aryl, with the condition that R^0 may be hydrogen if $y1$ is >2,

where

FAP⁻ conforms to the general formula (II-2)



with

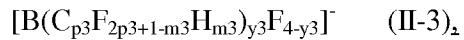
$p2$ [:] is 1 to 20,

$m2$ [:] is 0, 1, 2 or 3, and

$y2$ [:] is 1, 2, 3 or 4,

where

FAB⁻ conforms to the general formula (II-3)



with

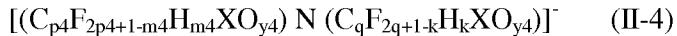
$p3$ is 1 to 20,

$m3$ is 0, 1, 2 or 3, and

$y3$ is 1, 2, 3 or 4,

where

Im⁻ conforms to the general formula (II-4)



and the variables

X is denotes carbon or sulfur,

p4 is denotes 0 to 20 and $0 \leq m4 \leq 2p4+1$,

q is denotes 0 to 20 and $0 \leq k \leq 2q+1$,

y4 is denotes 1 or 2,

where

m4 is [[=]] 0 if p4 is [[=]] 0, and

k is [[=]] 0 if q is [[=]] 0,

where the carbon atoms of the alkyl chain of the formulae II-4 may be bonded to one another by single bonds, and wherein the resultant alkylene chain may in turn be partially or fully substituted by F;

with the proviso provisos that

if X is sulfur, y4 is denotes 2, and if X is carbon, y4 is denotes 1 and p4 or q ≥ 1 ,

and where the carbon atoms of the alkyl chain of the formulae II-4 may be bonded to one another by single bonds, where the resultant alkylene chain may in turn be partially or fully substituted by F.

38. (Currently Amended): In a method of Use of the dyes according to claim 1 for colouring plastics and plastic fibres, preparing for the preparation of flexographic printing inks, as ball-point pen pastes, or as stamp ink, for colouring leather and paper, in preparing cosmetic formulations in the paints industry, or coloring in biochemistry, biology, medicine, analytics or electronics, the improvement wherein a dye according to claim 1 is used for coloring.

39. (Currently Amended): In a method of using a dye Use of the dyes according to claim 1 in data acquisition systems, reprography, in ink microfilters, in photogalvanics, laser technology or the photo industry, the improvement wherein said dye is a dye according to

claim 1.

40. (Currently Amended): In a method of using a dye Use of the dyes according to claim 1 for CD recorders, DVD recorders (DVD+R, DVD+RW), Bluray disc (BD-ROM, BD-R, BD-RE), computer to plate, laser filters, laser marking or photopolymerisation, the improvement wherein said dye is a dye according to claim 1.

41. (New): A dye according to Claim 28, wherein CAT⁺ is a cation of a polymethine dye.

42. (New): A dye according to Claim 28, wherein p2 is 1, 2, 3, 4, 5, 6, 7 or 8.

43. (New): A dye according to Claim 28, wherein p2 is 2, 3 or 4.

44. (New): A dye according to Claim 28, wherein Y⁻ is PF₃(C₂F₅)₃, PF₃(C₄F₉)₃, PF₃(C₃F₇)₃ or PF₄(C₂F₅)₂.